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Instructions on the offensive conduct of small units

Army War College (U.S.)

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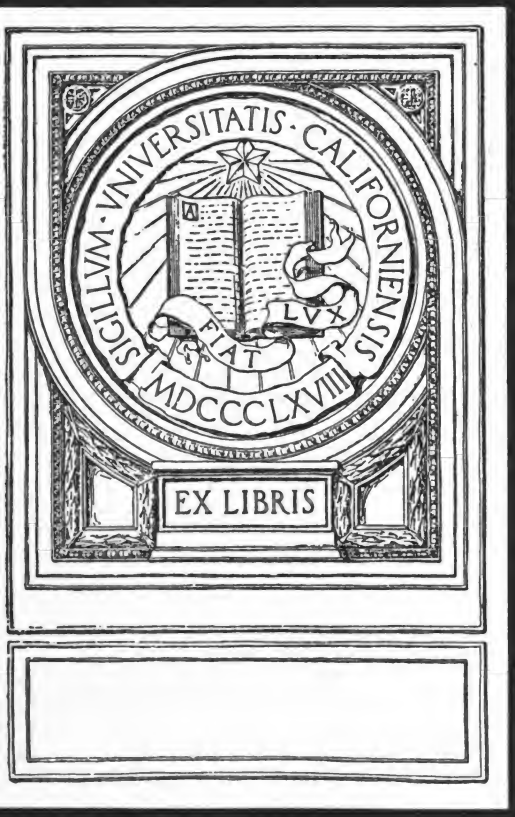
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INSTRUCTIONS

ON THE

Offensive Conduct of Small Units

TRANSLATED FROM FRENCH EDITION OF 1916
EDITED AT THE ARMY WAR COLLEGE
WASHINGTON, D. C.
MAY, 1917

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War Department
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WAR DEPARTMENT,

WASHINGTON, *May 8, 1917.*

The following Instructions on the Offensive Conduct of Small Units are published for the information of all concerned.

[2593447, A. G. O.]

BY ORDER OF THE SECRETARY OF WAR:

H. L. SCOTT,
Major General, Chief of Staff.

OFFICIAL:

H. P. McCAIN,
The Adjutant General.

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TRANSLATORS' NOTICE.

A comparison of the tactical instructions contained herein with the tactics in vogue at the outbreak of war, and with the "Tactical Study" of Laffargue, published to the French Army between the Battle of Neuville St. Vaast, May, 1915, and the Battle of Champagne, September, 1915, reveals a steady development of certain features of the attack. The Battle of Verdun brought into relief certain features of the defense which have likewise undergone great development.

Among the more important developments that should interest American students of modern tactics the following may be mentioned:

(*a*) The resort to intrenchments and their accessories to an extent never before imagined.

(*b*) The absolute necessity of perfect team work and efficient liaison between infantry and artillery in general and between individual units of each.

(*c*) The extent to which the initiative in the liaison between infantry and artillery has been given to infantry commanders.

(*d*) The use of material and personnel of liaison between all grades of commanders and their subordinates. (This latter was a feature of French training before the war, but the present instructions show considerable development. This subject has received practically no attention in the United States Army.)

(*e*) The section of 50 to 60 men is the fighting unit, and its leaders, subalterns, or warrant officers must actually lead in action but not disclose their identity to the enemy.

(*f*) The private soldier must be trained to assume leadership and responsibility.

(*g*) The machine gun is a powerful weapon of attack, support, and defense and must go wherever infantry goes; it must be used in larger numbers than ever before (French infantry brigades now have 84 machine guns to 6,000 men); it must fight to the end; and it must be used to economize infantry.

(*h*) The formation of infantry units, within range of artillery must in no case be in columns of fours. Depth is insisted on for purposes of control. Mingling of units is apparently inevitable. The use of successive lines of attack with distinct objectives, with each line in in turn in a succession of waves seems to be required.

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(*i*) Modern intrenchments can not be taken by infantry unless the attack is thoroughly prepared by artillery.

(*j*) Grenades are a regular infantry weapon and grenadiers are a part of every company.

(*k*) The advance under infantry fire is by section in good control of the leaders. The practice of filtering forward by individuals or in small groups is condemned, except where good cover or covered pathways may be used; but this formation can not be used in the open on account of loss of control.

(*l*) The "nettoyage" is the work of searching out the captured fieldworks for lurking enemy who, coming out from their hiding places, have in many instances caused serious losses to the attacking troops who have swept over and beyond them.

(*m*) It is to be noted that the assault by small units discussed in these instructions is entirely dependent upon accurate information concerning the enemy's trenches. This information in modern warfare is almost entirely obtained by aeroplane reconnaissance accompanied by aeroplane photographs, which are afterwards plotted on trench maps. Unless we are prepared to furnish such information no attack by units, large or small, can be properly planned.

(*n*) Any successful attack is dependent upon a well-trained and properly organized and directed general staff, which can coordinate and harmonize all tactical dispositions.

NOTE.—It is suggested that the development of machine guns, grenades, smoke and suffocating bombs, the "aeroplane de bombardment," etc., might well be applied to quelling troubles with our savage and semisavage dependents, with a great economy of infantry and cavalry.

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INSTRUCTIONS ON THE OFFENSIVE CONDUCT OF SMALL UNITS.

ISSUED JANUARY 8, 1916.

The purpose of this pamphlet is to give the Infantry the benefit of the experience acquired since the beginning of the campaign, in regard to the best methods of maneuver and of combat suitable for kind of warfare in which we are engaged.

The instruction is divided into two parts, *the bases of instruction* and *the conduct of combat.*

The first part recalls the general rules which form the base of military training of a company, and indicates in addition the principal characteristics of Infantry and the general outline of its operation.

The second part describes the conduct of combat by small units; that is, the section, company, battalion, regiment, and brigade.

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First Part.

BASES OF THE INSTRUCTION.

GENERAL PRINCIPLES.

Energy is the foundation of every military act. It is sustained only by constant effort, and it keeps alive the warlike virtues of bravery, discipline, spirit of sacrifice, and solidarity. It gives the necessary ardor and tenacity for a finish fight whether it be offensive or defensive.

The maximum effort is secured by concerted action, on the principle of the union of forces. The maximum result is obtained when our strongest attack falls on the enemy's weakest point, especially when the enemy has not had time to make his dispositions to parry the thrust. It is therefore necessary to strive for the element of surprise, which for its realization requires secrecy in its preparation and speed in its execution. On the other hand it is equally important to avoid being surprised. This is the principle of security.

THE COMMANDER.

The action of the commander has a decisive influence on the value of the company. Three essential qualities of a good commander may be mentioned—education, example, command.

Education.—The lack of knowledge is fatal to a man who seeks to inspire confidence, for it creates timidity. The commander who knows his business requires only useful effort of his men, does not wear them out prematurely, and does not risk their lives imprudently in battle.

Example.—Troops are the reflection of their commander. They are his severest judge, they retain his slightest words, and they watch his attitude. They ask nothing better than to be able to admire him and to follow him blindly. Fine behavior of troops under fire is a commander's best reward.

Command.—A commander leads his men forward because he knows how to be the most ardent among them; but he is also their master, because he knows how to keep his eye clear and his brain cool. Nothing must be hidden from him and the men must give him their complete confidence. Moreover, to command he must not only give orders but must also see that they are executed. He must keep his mind alert, must foresee events, in order to give in time the necessary orders and keep his subordinates constantly oriented.

A commander's authority makes itself apparent from the very first by the discipline of his men, as shown by their execution of

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orders, dress, exterior marks of respect, cleanliness, good upkeep of the arms, and correctness of maneuver.

Disciplined troops fight well; undisciplined troops escape from their officers during the combat, throw away their arms, and surrender or flee.

The mental activities of the commander must be constantly directed toward the search for information, since one must be *informed* in order to command. The commander should therefore take his station at the point where he can most quickly secure the best information from the whole extent of the front occupied by his troops; and when he has received information, he must send it without delay to his immediate superior and, if necessary, to his neighbors.

CHARACTERISTICS OF INFANTRY.

In order to handle infantry well it is indispensable to know it thoroughly. One must know its capabilities and also its limitations.

The principal characteristics of infantry at present are the following:

1. **Infantry of itself has no offensive power against obstacles defended by fire and provided with accessory defenses.**—When a line is stopped by organized defenses which are *intact* and *occupied by the enemy* the reinforcement of riflemen by the troops in reserve has no chance of accomplishing the capture of the position; *it will simply increase the losses.* An attack must, therefore, never be launched *without having it preceded and accompanied by the efficacious action of artillery.*

You can not fight with men against material.

2. **Infantry has a very great power of holding terrain.**—Tools permit it to shelter itself against blows. The power of the armament (rifle and machine gun) gives it the almost complete certainty of stopping an attack that has not been prepared by artillery.

The employment of obstacles (accessory defenses) which hold the enemy under frontal and especially under enfilade fire makes a short field of fire sufficient. For this reason infantry can safely occupy positions in the vicinity of the enemy which would otherwise be very unfavorable. If it has a few hours for digging and extending the accessory defenses, infantry ought to be sure of holding any captured ground.

3. **Infantry is quickly consumed.**—The forward movement in trench warfare encounters difficulties of all kinds. On the one hand the tearing up of the ground, trenches, communicating trenches, shell holes, etc., makes the maintenance of order extremely difficult. On the other hand, the incessant surprises caused by fire—barrier fire of artillery, enfilade or oblique fire of machine guns, explosion of

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grenades, etc.—contribute to the disorganization of the units. For this reason, too much density must not be given to the firing line either in the beginning or during the progress of an offensive action. When gaps are made, they must be filled with great discretion, being careful to avoid *piling up*, which increases the disorder and the losses. When troops have been sorely tried, it is preferable, when possible, to relieve them by fresh units, if any further effort is to be made; this avoids the complete disorganization of units without a proportionate return.

4. **Infantry must not maneuver in dense formations.**—Throughout the entire zone of artillery fire, columns of squads and lines of section columns are entirely prohibited.

5. **Infantry has an extremely sensitive morale.**—An operation must be prepared not only from the point of view of matériel but also from a point of view of morale.

This preparation is effected by daily visits of the commander to his men.

PHYSIOGNOMY OF INFANTRY COMBAT.

The principal duty of the infantry is the assault in any situation; whether on the offensive against lines organized for a long time back by the enemy, in each of the partial actions of the battle, or in a combat of rencounter in a war of movement, its opportunity always presents itself under the form of "the attack of a position."

The artillery devastate, the infantry submerges.

All tactics of infantry come back to the preparation of the assault, the execution of the assault, and the exploitation thorough and complete of the success.

These operations are repeated successively several times during the course of the same combat; they are translated into a small number of very simple actions which should become matters of instinct with every infantryman.

I.—THE PREPARATION OF THE ASSAULT.

The preparation comprises:

1. The approach to within assaulting distance of the hostile position.

2. The organization of the line of departure for the assault.

The approach.—The approach consists in carrying the assaulting line in good order up to the point of contact with the enemy.

In the present situation the accomplishment of the approach is a question of long months. If not already done, it is necessary to carry the parallel of departure to an assaulting distance of 100 to 200 meters.

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During the actions which will follow the assault, the approach must be pushed on to the second hostile position or to other positions situated farther back. The approach will also be one of the constant problems of war of movement. This march of approach must be executed in thin lines or in lines of small columns, going forward by successive bounds, rapidly and in good order, *under the protection of the artillery*.

Theoretically, the objective is that the infantry, under the protection of a well regulated artillery fire, should arrive in good order at assaulting distance and make the assault without having to fire. But it generally happens that just as the enemy's position is reached the movement becomes slower and more difficult. After the general movement of the whole force is thus checked, groups (sections, half sections) go forward by successive bounds. The skirmishers are sometimes able to reform their line in advanced positions by utilizing little by little a covered path of approach. Well trained infantry opens fire only at short ranges, when the riflemen can see the enemy and take accurate aim.

Officers and noncommissioned officers are the soul of the advance; by their determination and their military education they overcome the tendency to inertia and the fear of appearing in the open. It is they who begin the attempt at movement with the handful of men who immediately surround them.

Organization of the line of departure for the assault.—The line of departure for assault consists of a series of shelters dug by the men of the first line. When it is impossible to approach during the day to assaulting distance, the preparation of the line of departure for the assault is carried out as soon as possible after dark. Shelters are organized, not only for troops of the first line but also for reserves.

II.—ASSAULT.

The determined efforts demanded of assaulting troops, the successive attacks that they will have to make, necessitate a disposition in depth. The different echelons so constituted have taken the name of "waves," but this term implies in no way a uniform formation. The first waves (in general, the first and the second) are in line; the following waves are in different formations; for example, in line of small columns. On the other hand, in order to facilitate command of all the echelons, the waves are constituted by placing side by side the tactical units themselves, formed in depth but not entirely deployed. For this reason a company or a battalion will form parts of several successive waves. From this it is seen that the formation for assault is not a number of rigid lines capable of pushing only straight to their front, but, on the contrary, is a number of

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tactical units susceptible of movement in any direction and even of of executing maneuvers.

The waves are formed closed up one upon the other in the vicinity of the line of departure. They rush forward separated by short distances from each other, so as to be able to cross the zone of the barrier fire of the enemy in a very short time. Care must be taken that a following wave does not break automatically upon that in its front, for this would have the effect of giving an added density to the skirmish line thus increasing losses and mixing up the units.

For this reason, when the first wave has crossed the first line of the enemy, it continues its course toward the objective which has been assigned to it. The others follow it in good order. They are put into action successively, as needed, by the commanders of the different units.

III. EXPLOITATION OF THE SUCCESS.

1. **The assault is followed by a struggle in the interior of the position.**—At certain points the enemy yields and at other points groups resist with fury.

The assailants rallying around those commanders who remain rush into the breaches and surround the centers of resistance.

As soon as a trench is carried, the attack stops just long enough to regroup, then the groups of assailants rush into the spaces which open up before them. Their strength lies in their audacity.

These scattered combats bring the groups into contact with a new hostile line of defense. If the latter is occupied, they intrench in order to form a line of departure for assault by other groups. The attack of the new position is resumed as before with new troops.

If the attack has for its object only the taking of a certain determined position, the line of combat occupies the position and intrenches itself, pushing only its advance elements forward. The reserves come up to secure the occupation of the ground taken.

Sometimes the attacking troops, disorganized by the fight, deprived of the majority of their officers, are engaged by converging counter attacks; they then have a tendency to give ground.

The ground gained must be stubbornly defended, *there must be no retreat.* The groups make a lodgment for themselves and intrench where they can resist all attacks; if surrounded, they hold fast until the end. Moreover, the first waves are immediately followed by a powerful line with machine guns and supported by the reserves.

2. **Continuation of the fight during the night.**—The night which follows the day of attack generally brings a relaxation of which the enemy takes advantage to intrench and reinforce. It is to the interest of the assailant, then, to utilize the hours of darkness to pursue

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his advantages, by making a methodical progress where the enemy is yielding, and by carrying the hostile organized positions before they can be consolidated.

A night attack can only take place when in contact with organized positions partly destroyed, rather weak, or occupied only by troops which are demoralized. When attacking well-established trenches, which are still intact and manned by unshaken defenders, it is necessary to prepare the attack by an efficacious artillery fire. In this case advantage is taken of the night to hasten the distribution and placing of tools and material, and even to commence this preparation with trench weapons.

By reason of the difficulties of advancing over unknown ground in the darkness, night attacks will never have a distant objective, being generally limited to the taking of a well-defined point or line of trenches. A thorough knowledge of the terrain being indispensable, attacks must not be carried out by troops which have come up to the scene of action during the night unless they have been able to make the necessary reconnaissance during the day.

Night attacks must be carried out under the direct orders of colonels and battalion commanders, for, by reason of the difficulty of communication and of the mingling of the units, the control by brigade and division commanders is difficult.

Troops which have led the attack during the day must be immediately reorganized; this is the rôle of the commanders who, by passing along the front, make the necessary reconnaissance and bring to all the comfort of their presence.

The preparation of the attack, the collection of the necessary material, and the placing of the troops are effected by the usual methods.

When the preparation is ended, the infantry line rushes forward with the bayonet without firing.

The captured trench is immediately reversed, light rockets are thrown up in order to reconnoiter the ground in front, and special attention is given to the flanks. As a matter of course, a strong garrison is always left in the trench of departure, which trench is immediately joined to the line of captured trench by communicating trenches.

Order and silence are indispensable to the success of evéry night operation.

If the ensemble of these conditions can not be realized, it is better to give up the attack.

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Second Part.

CONDUCT OF THE ATTACK.

SPECIAL FEATURES OF OFFENSIVE COMBAT.

Employment of machine guns.

Special rules relative to the organization for the attack of organized positions, fortified and established for some time past by the enemy.

Liaison.—In so far as the liaison between the Infantry and the Artillery is concerned, it is necessary for the attacking Infantry to inform the Artillery exactly about its *situation* and the nature of the obstacles which stop it. It often happens that if the Artillery does not effectively support the Infantry, it is because the latter does not know how to tell the former what is expected of the Artillery.

Observation.—The observation of the enemy is one of the principal sources of information; it should have a permanent organization in each échelon.

It is not given to everyone to be able to observe properly. Some are more fitted for this work than others; aptitude is developed by practice. *The training of good observers in the Infantry is one of the most important tasks.*

Conditions governing good observation require that it should be made without the knowledge of the enemy; observers must therefore conceal themselves by every possible means. Observers must not only know how to see, but they must also have the necessary tenacity and patience for observation.

The present form of war permits the training of *enthusiastic* observers. The care of this instruction falls upon the captain, who inspects the service of his observers every day.

(Note.—While occupying a position for any length of time it is well to have them record their observation.)

Each section should have at a minimum six observers, two to accompany and assist the section leader, the other four to serve as scouts.

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The captains' and battalion commanders' agents of liaison serve them as observers. They divide up the ground to be watched amongst them, observing the movements of the enemy, of our own troops, and the signals. *In each echelon the commander indicates without delay to his superiors and to the Artillery the points which furnish a good view of the surrounding terrain.*

"Nettoyage" of trenches.—The cleaning up of the trenches is generally taken care of by the battalion commanders of the first line, and sometimes by the colonels, by means of organized fractions (sections, platoons, or even companies), solidly supported on either flank.

(NOTE.—It is well to give the men an insignia which permits them to be easily recognized.)

(It is bad practice to employ for this service detachments of volunteers who might quickly abandon their mission in order to pillage.)

This work must be conducted according to a prearranged plan with the firm determination to obtain a quick result, the resistance of isolated hostile groups often causing greater losses than the attack itself.

The men employed for the cleaning up should be exercised in the handling of their arms and special weapons—pistols, knives, grenades, shotguns, etc.

GENERAL OBSERVATIONS.

This instruction pamphlet has for its object the completion of our regulations so far as the principal cases which may present themselves are concerned; that is, the *assault* of a fortified position, the *combat* in the interior of this position, or the resumption of the *war of movement.* For this purpose it describes *the approach, the assault, the exploitation of the success,* and *the occupation of the captured ground.*

Two things must, however, be clearly understood:

(*a*) That the different phases of the combat may present themselves in any order and especially that, in the present situation, the action commences by the assault.

(*b*) That from the moment when the infantry finds itself under a really efficacious fire, experience has shown clearly that it will advance no more unless the artillery opens up the way.

THE SECTION AND THE GROUP.

The combat is not, in general, carried to a finish by the normal or type units; the incidents of the fight, the exigencies of the terrain, create momentary combat groupings whose strength and composition, are extremely variable. The smallest handful of men must

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always have its commander; whether he be noncommissioned officer or soldier, he must rise to the direction of his comrades, carry them forward when they hesitate, and prevent them giving ground. These momentary groupings deploy, advance, and fire in the same way as normal units, and for this reason the tactics for small groups must be applied to them the same as to regularly organized units.

The normal unit of combat is the section. All that will be said hereafter about the section applies to the group, whatever its strength.

OFFICERS.

The section is commanded by a leader aided by two leaders of half sections who are file closers.

The section leader guides his unit; he gives it his personal attention only at critical moments, generally being entirely absorbed in observation of the enemy. The unit is tied to its leader who, under all circumstances, is the rallying point; it regulates itself by his attitude or his gait. In the moments of halt, when fire is opened, the section leader takes post in the line of skirmishers or slightly in rear of it. At short ranges a section leader should abstain from useless gestures, which might disclose him to the enemy.

The file closers are the indispensable aids of the leader. They remain behind the section to assure the execution of the orders of the leader, to whom they are responsible for the conduct of the men. They take command of the men without orders whenever the leader goes off on reconnaissance. The number of file closers must never be less than two, and in case the file closers are killed or wounded their functions devolve upon corporals or privates.

FORMATIONS.

Formation of approach.—When the section is not exposed to infantry fire it is formed, according to convenience, in line of squads in column of files, or in line of half section in column of files or of twos. These formations permit of an easy march across a terrain strewn with obstacles and do not form a good target for artillery.

On the field of battle or in the habitual zone of fire of the hostile artillery, the column of squads must be absolutely prohibited.

Combat formation.—The formation for combat is the line of skirmishers. The normal interval between skirmishers is 2 paces, but this interval may be increased under exceptional circumstances, as for crossing a beaten zone.

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COMBAT.

Before the combat the leader indicates the point of direction to all the men of his section. During the advance he regulates the length and the frequency of the successive bounds so that his unit may be always kept in good order and in condition to fight. He takes advantage of all cover to reorganize his command and to get it well in hand. (Close order movements, if necessary.)

The section fights with the rifle, the bayonet, and the grenade.

THE ADVANCE.

The advance to the combat is executed at quick time without halts, by long rushes at double time, by short bounds at full speed, or by the filtering process.

(1) So long as the movement is protected by powerful bursts of artillery fire, at long and mid ranges, the skirmish line marches at quick time without halts or by long rushes at double time. The file closers maintain the alignment of the section and particularly at critical moments (artillery fire). During halts, all considerations of interval and alignment disappear before the necessity of utilizing the terrain to the best advantage.

(2) Under infantry fire, the crossing of open space is carried out by short bounds at full speed. In close fighting, avoid rushing forward without previously indicating the objective to the skirmishers.

(3) *When the movement can be executed under cover*, the skirmish line can slip into a new position by filtering, the movement being executed gradually. But during the fight the crossing of open spaces by isolated or small groups is to be condemned.

ASSAULT.

The assault is in general a combined action which is executed under the protection of powerful bursts of artillery fire. *The attacking troops must reach the enemy in a single rush.*

In the course of the fight which will follow, certain groups of skirmishers will likewise have the opportunity to make an assault. The movement of a handful of brave men may have a considerable effect; for instance, it suffices sometimes to bring about the advance of a skirmish line which had a tendency to stop.

When a group has succeeded in gaining a shelter a short distance from the enemy, the group leader causes bayonets to be fixed, hiding this action from the enemy, and everyone gets ready to rush forward in a single movement. A volley of grenades is thrown upon the adversary, and, as soon as they burst, the group rises and rushes

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forward with lowered bayonet. When the section is to continue the forward movement after seizing a hostile trench or vantage point, it must be rapidly reorganized previous to the further advance. When the section is not to continue the forward movement, the vantage point is organized immediately; it must not be abandoned under any pretext, even if it is turned. In case of a hostile counterattack, it is always the fierce resistance of small groups which permits of stopping the hostile attack and of resuming the offensive.

FIRE.

The firing is conducted by section or half section; it is employed if necessary in the offensive to complete an insufficient artillery preparation or to act on uncovered troops. Against sheltered troops, fire is opened only at short ranges.

Fire at will is the *normal* combat fire; this is always a strictly individual fire. Each skirmisher watches the adversary whom he has chosen in the objective of his group, and fires only at the opportune moment; when necessary he changes his objective (adversary) on his own initiative.

Volley fire is a fire for discipline.—It is executed to repress disordered firing, at night or after an assault, or at the commencement of a pursuit by fire. Fire at will is only resumed after a correct execution of volley firing.

Surprise fire.—Skirmishers should be familiar with the rapid and silent execution of surprise fire, which is a fire at will under the form of a rapid and intense burst ("rafale"). Its suddenness joined to the deadly effect of this fusilade may produce upon the enemy a complete demoralization.

When the group leader seizes a favorable opportunity to inflict upon the enemy a surprise by fire, he gives the indication of sight and objective, has the arms prepared without noise and takes his group, if necessary, up to the firing emplacements. Each man rapidly observes the objective and aims. Fire is immediately commenced.

In order to avoid unnecessary losses or the tendency to disordered shooting, the group leader often has only a part of his men fire, designating for this purpose the *best shots*, and the skirmishers who have the best positions, whose fire is calm, precise, and vicious. The group leader controls the fire and regulates strictly the time of open and cease fire. In the attack it is necessary to obtain the instantaneous stopping of fire, in order to resume the forward movement; to this end the group leader who can not make himself heard, rises and moves forward.

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COMBAT IN THE COMMUNICATING TRENCHES.

A combat on terrain cut up by trenches often causes groups of skirmishers to advance by the communicating trenches. Fighting in communicating trenches is exceedingly hard, rough, and slow, because only one man can be engaged at a time on this narrow front and because the enemy retreats step by step. The arm for this fighting is the grenade.

The dispositions to be made by every leader of skirmishers are as follows:

Place at the head a small group of intrepid men; organize rapidly a chain for replenishing grenades; prepare to obstruct the ground captured; provide a good stock of grenades, in order to obtain superiority over the enemy.

The following normal arrangement is recommended:

The group at the head is composed in general of the group leader and three men. The first man, armed with a rifle or revolver, holds himself ready to stop the passage. The other two, the bombers, throw grenades without interruption, one on the enemy's barricade, the other as far to the front as possible, in order to interfere with the enemy's replenishment of grenades. Obstructions of sandbags are blown to pieces by grenades.

The replenishing chain is composed of men at 6 paces intervals so that they may run freely in order to get out of the way of grenades.

Further in rear another fraction fills sandbags rapidly in order to facilitate the rapid construction of barricades.

The most profound silence is maintained and all noises coming from the enemy are attentively observed. When the head group judges that the enemy is overcome, a man glides crawling through the smoke, looks around the corner, and signals to his comrades. In this manner the advance is made from turn to turn or from traverse to traverse.

The section must be exercised (rehearsed) in making small attacks, combining the use of rifle, grenade, and bayonet.

THE COMPANY.

FORMATIONS.

1. Formation of approach.—The most useful formation is the double column, at variable distances and intervals. [Two columns of two sections each.—Translator.]

The sections should be in line of squads in column of files, or in line of half sections in column of files or twos.

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2. **Combat formation.**—In line of skirmishers. (The number of the section of reinforcement are variable.) The company being at first formed in depth, the captain retains his power to make his action felt.

POST OF THE COMMANDER.

As long as the company is not engaged the captain remains at the head.

As soon as the company is engaged the captain posts himself between his sections of the first line and his sections of support, but close enough to the skirmish line to be able to follow all of its movements and push it forward if necessary.

When all the sections are engaged he places himself where he can best direct the movement.

The captain always has near him an agent of liaison for each section, and a quartermaster sergeant, and if possible a trumpeter, for the company as a whole. (These agents of liaison must also be observers at the same time.)

COMBAT.

1. **Order of engagement.**—The captain indicates the objective, the mission; the formation (and the necessary complementary information—the interior formation of the sections, intervals and distances, direction, base unit); his post and that of the battalion commander. He adds instructions relative to covering the flanks; the hour or the signal for departure; and, when necessary, the mission for those who are to carry out the "nettoyage" of the trenches.

2. **The approach.**—As soon as the company quits the route column it takes the approach formation.

As soon as the artillery fire becomes efficacious and, in any case, as soon as the company enters the zone of infantry fire, it takes combat formation. However, on difficult or covered terrain, the formation in small columns may be maintained. Particularly dangerous lines of terrain (roads, edges of woods, etc.), are crossed hurriedly (by entire companies). In this case the last units close on the leading element which halts; the regular distances are resumed afterwards.

The captain pushes the fighting line as near as possible to the enemy. He pays great attention to the maintenance of order in his support sections and takes advantage of every circumstance to retain or to regain control of them. He sends the supports into the line as soon as he judges them necessary to the continuation of the forward movement.

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When there is no longer any possibility of his changing his position under fire to give his orders, he tries to join the group which is most favored by the terrain and pushes it forward. The above is the manner in which he commences the movement of his company, which he continues to command, if only by gestures.

3. **The assault.**—In the disposition for assault, made in the trenches of departure, *the company, in the habitual combat formation, normally forms part of the first and second waves.* In the assault which follows an advance the company may assault upon a single line, if it has been very much reduced in numbers.

4. **Exploitation of the success.**—As soon as a company commander has succeeded in penetrating a hostile position, he tries to break it up; he pushes certain groups into the unoccupied intervals and assigns other groups to the task of taking the resistance in reverse. These groups complete the action of those assigned to the "nettoyage"; they rejoin their companies as soon as possible. In a general way, companies endeavor to rally while marching and while continuing to fight. In the mêlée, the men try to join the noncommissioned officers of their company who are still standing, and these noncommissioned officers try to reform the skirmish line. In this manner the reorganization proceeds as far as possible by a regrouping of the nucleus of the company.

As soon as he loses contact with the enemy, the captain causes groups of scouts, or an organized element, to advance immediately and rapidly and supports them as closely as possible. It is important to act quickly.[1] These elements are sent out for no other purpose than that of guarding against surprise; reconnaissance of new hostile positions is made by the forward movement of the fighting line.

5. **The holding of the ground taken.**—When the company is stopped by an obstacle which prevents all further advance, the first care of the captain should be to organize his position securely, at such a distance from the hostile line as permits the artillery to effect preparation for a new advance. This organization of the position should provide for the security of the flanks and, as far as possible, for the flanking of his front (by machine guns).

During the day it is generally necessary to dig into the ground wherever one is stopped. As soon as night falls the tracing of the line is improved, wire is placed, and the flanking arrangements are perfected. The captain reorganizes his units, and a separate fraction

[1] Reconnaissance does not, in this case, effectively replace the "feeling out" process when making contact with the enemy in maneuver warfare.

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is constituted (unless already formed) and held available for any emergency. He carefully establishes his liaison with the neighboring units. In rear of the continuous line formed by units of the first line, the units of reinforcement prepare supporting points, composed of closed works, surrounded by wire and flanking each other.

The search for emplacements which give good views of the hostile position is of the highest importance. Flank views are particularly important. Observation stations are indicated *without delay* to the commander who reports them to the artillery.

To facilitate the rapid preparation of reports all company commanders and section leaders are given a number of sketches of the terrain where the company is operating, and note pads bearing printed information.

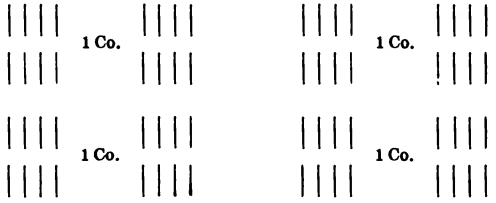
6. **Special features relating to the companies of the second line.**—The commanders of these companies must keep constantly in mind the necessity of *covering the flanks of the companies which precede them.* The latter, being freed of this care, will be able to bend all their efforts to the forward movement. These company commanders, in addition, make it their business to rally all the reinforcements of the preceding companies. Finally, they must not hesitate to engage themselves, without orders in case of necessity to cover a flank, exploit a success, check a counter attack, etc.

THE BATTALION.

FORMATIONS.

The formation of the battalion *in depth* is necessary under all circumstances.

The habitual formation of the battalion, especially of assaulting battalions, is the *double column.* (Sections in skirmish line or in line of columns.)



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In certain cases, it may be necessary to place three companies in the first line and one in the second; but it will always be better not to give too extended a front to the battalion, in order to facilitate command.

A battalion of assaulting troops will then, generally, form part of four successive waves.

POST OF THE COMMANDER.

Up to the moment of the engagement, the commander precedes his battalion.

When the battalion becomes engaged in the first line, the commander marches in rear of the companies of the first line, that is to say, at the head of his companies of the second line (third wave of the assault). In the course of the combat he will remain, as far as possible, at the point where he can best see and receive information.

AGENTS OF LIAISON.

The group of agents of liaison is under the authority of the battalion sergeant major, whose special mission is to organize a constant surveillance of the battle field. Besides the agents of liaison of the company, this group comprises the telephone operators and signalers (optical apparatus, flags, rockets, etc.). The agents of liaison each carry a tool; they are charged with the construction of the shelter for the battalion commander.

PLAN OF ENGAGEMENT.

The duties of the battalion commander in planning the engagement consist essentially:

In determining the arrangements for the start of the battalion.

In giving to each company its direction, mission, and objectives.

In organizing the liaisons.

In assuring the covering of the flanks.

In regulating the employment of the machine guns which he has at his disposal.

In regulating the work of the men charged with the "ettoyage" of the trenches.

In indicating the place where he will take position, and that of the colonel.

In indicating the hour or the signal for the start.

The battalion commander must likewise have thoroughly studied the conditions under which the movement will be carried out, *and must have visualized the difficult situations which may arise.*

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While the company has generally only to march upon its objectives, the battalion on the contrary may have, from the start, or during the course of the operations, to effect a maneuver. The latter has generally but a limited breadth, but it must be carefully organized in the smallest details, and the rôles must be well distributed. (It is always well, when possible, to have a previous rehearsal.)

THE COMBAT.

Rôle of the Battalion Commander.

The battalion commander gives special attention to the following points:

1. **The advance.**—To supervise the movements of the companies of the first line; not to let it slow up prematurely.

2. **Order.**—To give special attention to the maintenance of order in the second line. At each halt, in the development of the combat, to reorganize the units, to reconstitute available units, so as to be able always to intervene in the fight.

3. **The Liaisons.**—To maintain constant liaison with the units of the first line and with the neighboring battalions. To know at every instant the exact situation of the companies engaged, their needs, and the nature of the difficulties which they meet.

Observation.—*The combination of the liaisons and of the observation service* gives the battalion commander the information which he needs, and which he transmits without delay to the colonel.

4. **Security.**—To foresee possible counterattacks. To cover the flanks, it is most necessary to be able to detect and to stop any menace against the flanks. He has for these purposes available units which can act instantaneously in the threatened direction and machine guns which follow the progress of the attack, from position to position, on watch or in action on the dangerous zone.

ENGAGEMENT OF THE COMPANIES OF THE SECOND LINE.

The battalion commander orders the engagement of all or part of his available units in order to assure the continuation of the forward movement. These units must not get out of hand and mingle with those of the first line, thus augmenting its density and the confusion.[1] This is a danger especially to be avoided when the combat line is stopped short before a hostile supporting point, in which case the reinforcement generally produces no result. It is necessary to

[1] The engagement without orders by the companies of the second line must only take place under urgent *necessity*. (See "Formation" under "The Battalion.")

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maneuver by the flanks whenever possible. In any case it is important to grasp the situation rapidly, make a decision, and execute it without delay. It may be advantageous to this end to previously place a part of the units of the second line behind the wings of the companies of the first line and assign them the mission of advancing on the flank of the enemy in case the first line is stopped.

The combat thus leads to a very rapid expenditure of reserves, *for which reason it is essential that available troops be reorganized at each favorable opportunity.*

HOSTILE COUNTER ATTACKS.

The reserves at the disposition of the battalion commander must be in a position to provide against an accidental bending of the line of combat, especially in the case of counterattacks. This movement will be stopped by well-posted units which are in good order and capable of promptly delivering a powerful fire. The best method of assuring the repulse of counter attacks is to maintain, in rear of the line of combat, certain units well in hand, well officered, provided with machine guns, and posted in their chosen emplacements, at the organization of which they are able to work under better conditions than in the first line. The battalion commander should try to carry out this arrangement in all cases. It is not necessary that the force of troops assigned to this mission be very strong; small fractions, few in number, *principally machine guns*, will generally suffice.

OCCUPATION OF THE GROUND TAKEN.

When the battalion is stopped before a hostile position which is organized and intact, the necessary steps, as in the case of a company, are the following:

To organize the position held by the battalion, flanking the front, and covering the flanks.

To assure good liaison with neighboring battalion and with the commanding officer in rear.

To install a service of observation over the hostile line.

To constitute reserves, and to avoid piling up on the first line.

The trace of the first line must not be determined by the stopping of the skirmish line. The battalion commander must have the line rectified so as to assure good flanking dispositions and to permit our artillery to prepare for further attack on the hostile position. The necessary modifications, which will generally be made at night, must be based on the information gained by personal reconnaissance of the battalion commander.

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Behind the first line, the reserves will immediately organize a series of supporting points forming a second line.

The post of command for the battalion commander must be chosen so as to give a clear view of the terrain and to permit easy liaisons with his companies. The element of observation must take precedence over that of liaison. Telephone, optical posts, signals, and relays are employed concurrently to assure the liaison.

The battalion commander endeavors to inform his colonel promptly of the exact situation, indicating to him, particularly, the location of observation posts from which it will be possible to regulate the fire of artillery, especially its barrier fire which must be organized as soon as possible.

THE REGIMENT.

The colonel conducts the combat of his regiment. He will scarcely ever attack with his three battalions in line. The formation generally adopted is two battalions in the first line and one battalion in reserve, or the reverse. The three battalions may be deployed one behind the other, especially in the march of approach of the regiments of the second line.

The colonel precedes his regiment until it becomes engaged, after which he marches in front of his battalion or battalions in reserve. He is always accompanied by a telephone detachment which also carries optical apparatus and flags. The colonel also has a small detachment of pioneers to make a shelter for him.

THE PLAN OF ENGAGEMENT.

The colonel draws up his plan of engagement in a manner similar to that of the battalion commander. The idea of maneuver previously indicated for the battalion has still greater importance for the regiment; it determines the disposition of the battalions as well as their missions.

The machine-gun companies are employed offensively and defensively, according to the rules of note No. 13251 of November 24, 1914; that is to say, to support the front, to cover a flank, or to provide against an unforeseen event. It is always important to distribute a certain number of machine guns to the battalions. Their employment should be provided, in a general way, with a view to economy in the use of infantry.

THE COMBAT.

Everything relating to the action of the battalion commander is applicable to the colonel, and, naturally, to a much greater extent. The colonel may limit himself to assigning directions and missions

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to his battalion commanders, or he may, on the other hand, have to go more into detail, according to the character of each of them.

The colonel supervises the engagement of his battalion of the first line, rectifies errors, checks up oversights, and endeavors to be perfectly informed of everything that passes in his zone of action. He pays special attention to the liaison with the neighboring units and to the constitution of the reserve.

The most important function of the colonel consists in assuring for his infantry an efficacious artillery support. This result will be obtained if the colonel is able to indicate at any moment to the artillery:

(1) The exact location of the first line of his regiment.

(2) The point in front of this line upon which the artillery officer should fire.

(3) The observation stations.

It is therefore of the greatest importance for the colonel to have the interior liaison and the service of observation in perfect working order.

The above information will be transmitted to the divisional commander through the brigade commander. If a unit of artillery has been directly assigned to the regiment, this information is given to the commander of that unit.

When the regiment is stopped before a position that it can not take with its own force, the colonel decides the general lines of the organization of the terrain, leaving the details of the execution to his battalion commanders. He concerns himself with immediately organizing artillery barrier fire in advance of his front, and, if necessary, on his flanks. He must, to this end, inform the commander about the situation and indicate to him the observation posts. He then arranges for the supply of material of all kinds—wire, grenades, etc., and particularly bombs for trench guns, if these appliances have been placed at his disposition.

To sum up, the rôle of the colonel, after an objective has been assigned to all concerned, consists in developing the power of his troops to the fullest extent by placing at the disposal of his battalion commanders all the means which they need; by assuring the liaison with the artillery; and by providing for suitable reserves.

THE BRIGADE.

It is not possible to formulate a general rule on the subject of brigade formations, which depend essentially on the mission and on local conditions. It is generally advantageous to place the two

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regiments of the brigade side by side in order to facilitate control by the commander.

The plan of engagement is established as has been previously explained. The brigade commander regulates the employment of the brigade machine guns which, unless under exceptional circumstances, must not be placed in reserve. (It appears to be better that machine guns should be placed at the disposition of the regiments according to the missions of these regiments.)

The organization of the liaison, on the one hand with the colonels, on the other hand with the artillery, when necessary, is one of the most important parts of the plan of the engagement. The brigade commander must establish a sort of general plan of liaison. It is possible to determine in advance certain dispositions of a nature to increase the rapidity and security of the communications, such as locations of future posts of commanders, optical posts, itineraries to be followed in the establishment of telephone lines, supply of light poles for the installation of the line, organization of detachments to watch the line,[1] principally at crossing points, etc.

During the combat the brigade commander should relieve the division commander of the care of the conduct of the infantry. To this end he tries to keep constantly in touch with the exact situation of his troops, with the difficulties that they meet, and with the conditions which arrest their movement. He keeps the general of division in touch with the progress of the battle by frequent reports.

The brigade commander takes his post where it is easily found and has good communications. He has a shelter constructed by a small detachment of sappers who march with him. He also has at his disposal telephone and signal men with the necessary material.

[1] Territorials placed by the divisions at the disposition of the brigades.

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Appendix.

METHODS OF INSTRUCTION.

The methods of instruction are grouped into two classes:

Exercises of evolution which give the troops suppleness and rapidity in maneuver.

Combat exercises which have for their object the study of concrete cases of phases of combat relative to the execution of an attack or to the defense of a front.

Combat exercises assure not only the *training of the troops but also of the officers and noncommissioned officers.*

EXERCISES OF EVOLUTION.

These exercises are practiced especially by the small units: half section, section, company. In the preparatory training the principal points to be insisted on are:

The execution of the rush by the skirmisher, individually and then by group.

The passing of obstacles—wire entanglement, intrenchments, walls, palisades, etc.

The march in order at quick time for a long distance passing various obstacles.

Rapid changes of formation.

Manual of arms (including bayonet fencing).

COMBAT EXERCISES.

It goes without saying that combat exercises, being nothing more than repetitions of episodes or incidents of war, require careful preparation. For the small units, a few moments of study will be sufficient; for the company and higher units, the preparation will demand more time, frequently including previous reconnaissance or even special preparation of the ground. These exercises, giving such excellent results, can not be too carefully prepared.

The hostile positions should be indicated or outlined by some appropriate means, such as flags, markers, etc. The enemy should sometimes be represented, but two side maneuvers should be avoided. The movements should be repeated when badly executed. In order to permit each chief of a unit to exercise command of his

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troops, the functions of director will be discharged by the chief of the superior unit.

Combat exercises for the section and the company will include the attack of supporting points, debouching, counter attacks, and the occupation and organization of positions. Captains will have no trouble in remembering interesting incidents for repetition. The company should also be drilled in exercises of attack on a depth of 2 or 3 kilometers (successive assaults interspersed with marches of approach).

Combat exercises for the battalion should be frequent; an effort should be made to obtain perfect execution of the maneuver as a whole as well as in all the details. These exercises should consist in the conduct of a combat on the entire battalion front for battalions of the first line, and on depths of 3 or 4 kilometers for those of the second line. The director should make decisions that various incidents are occurring on the front and on the flanks; he should endeavor to train the troops to make a rapid reorganization during short halts; and, finally, he should prescribe the organization of the captured terrain in contact with the new hostile line.

The training of the battalion for combat is most important and can not be given too much attention.

Regimental exercises [1] (marches of approach and combat exercises) must be practiced frequently in connection with the artillery. when the latter can not be actually represented, it should always be outlined, at least by a few men, in order to drill the liaison.

It is also advisable to drill the officers and noncommissioned officers of the regiment in exercises exclusively devoted to changes of position of the organs of command and to the establishment and operation of the liaison.

All units must likewise practice night exercises.

Good order and rapidity of execution will be most carefully cultivated. The notion of surprise will be instilled into the men and their leaders.

Combat exercises will always be followed by a few close-order movements for the purpose of getting the troops in hand.

GENERAL OBSERVATIONS.

The results sought after in the training of troops are not to be obtained by tedious repetitions of drill movements. They are the result of a series of logical and methodical efforts, each exercise having a useful end and imparting some instruction.

[1] Contingently for the brigade.

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SUPPLEMENTAL (PROVISIONAL) INSTRUCTIONS.

SEPTEMBER 27, 1916.

INTERIOR ORGANIZATION OF COMPANIES AND CONDUCT OF THE OFFENSIVE BY SMALL UNITS.

1. In order to secure a judicious training of the specialists of an infantry company and their proper use in battle, they must be grouped and organized. Some modification, therefore, is now required in the interior organization of the company.

As a result, moreover, of experience gained from the course of events, it is possible to issue precise rules for these specialists and for the combat of small units in general, complementary to the instructions issued on January 8, 1916.

The following notes give rules on these points and also specify the characteristics of the new infantry armament. They will be distributed right down to section commanders and will be brought to the knowledge of all concerned as widely as possible.

ORGANIZATION OF A COMPANY OF INFANTRY.

2. The organization and establishment remain as laid down in Tables of Organization of August 26, 1914.

3. For convenience the following designations will henceforth be recognized:

Grenadiers (bombers): Specialists in use of hand grenades and rifle grenades (V. B.[1] grenade gun).

Fusiliers (Lewis gunners): Specialists in the use of automatic rifle.[2]

Voltigeurs (riflemen): The remainder of the company, which title is especially appropriate in view of the activity and devotion to varied duties required of these men.

These distinctions in no way alter the interior life of the company. All men are equally available for work of every sort.

4. The company contains four similar sections. Each section is divided into two half-sections as follows:

First half-section (under grenadier or fusilier sergeant):

No. 1 squad (grenadiers): 1 corporal and 7 grenadiers.

No. 2 squad (fusiliers): 1 corporal and 6 fusiliers.[3]

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[1] Viven Bessières. (Translator's note.—The V. B. grenade gun is used for firing rifle grenades.)

[2] Fusil mitrailleur.

[3] Manning 2 automatic rifles.

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Second half section (under voltigeur sergeant):

No. 3 squad (voltigeurs): 1 corporal, 8 voltigeurs, 2 V. B.[1] grenade gunners, 1 carrier.

No. 4 squad (voltigeurs): 1 corporal, 9 voltigeurs, 2 V. B.[1] grenade gunners, 1 carrier.

5. Remaining supernumeraries, such as drummer, pioneer, liaison agent, signalman, cyclist, orderly, hospital corps man, etc., are distributed so as to equalize strength of squads. Not only the grenadiers but every other man must be trained in grenade throwing, and every "voltigeur" is, in addition, to learn some specialty.

6. Casualties in the first half section should be filled as a rule by the second half section under permanent rules of the company commander, approved by the commander of the battalion. The proportion of voltigeurs to grenadiers and fusiliers must not be allowed to fall too low. Every effort should be made to retain the squad of voltigeurs complete.

For instruction purposes the specialists of each class may be assembled by company or by battalion under direction of an officer.

This organization will come into force at once.[2]

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[1] Men armed with the V. B. grenade gun will often be placed where the rifle and bayonet are required, especially during an assault. Besides this they are in battle formation generally on the same line with the riflemen. It is for this reason that they with their carriers are distributed between the two squads of riflemen.

[2] The following table shows the division of the effective war strength of an Infantry company in the new organization:

Total effective war strength of the company according to organization tables of Aug. 26, 1914		194
Division:		
(*a*) Combatant sections organized as indicated in the text—		
Sergeants in command of half sections		8
Corporals, chiefs of squads	16	
Privates	144	
		160
(*b*) Noncommissioned officers not included in combatant sections—		
Adjutant	1	
Sergeant major	1	
Sergeant farrier	1	
Corporal farrier	1	
		4
(*c*) Privates not included in combatant sections—		
Guides	3	
Pioneers	4	
Drummers or buglers (liaison agents of the captain)	4	
Hospital corps man	1	
Signalers	2	
Tailor and shoemaker	2	
Orderly for captain	1	
Various	5	
		22
Total		194

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CHARACTERISTICS OF THE NEW INFANTRY ARMAMENT.

7. The following table shows the evolution of infantry armament since the beginning of the war:

	At beginning of war.	Present time.
Rifle and bayonet	Nearly total personnel	
Hand grenades	Nil	32 grenadiers per company.
Grenade guns	do	16 grenadiers per company.
Automatic rifles	do	8 per company.
Machine guns	2 per 4 companies	8 per 3 companies.
37 mm. guns	Nil	1 per battalion.

This new armament has the following characteristics:

HAND GRENADES.

8. **On the defensive,** the hand grenade can produce an excellent short-range barrage. In the hands of fearless, expert, and well-supplied grenadiers they provide for the establishment of *centers of resistance* which are difficult to destroy, and which will afford protection to important features of the defensive line, such as salients, machine guns, outlets of communication trenches, etc. All except awkward men should be able to take their part in making a barrage at 30 yards' range; one man is required per 10 yards' frontage with the O. F., or one per 16 yards with the F. 1 grenade.

9. **On the offensive,** the hand grenade will reach defenders under cover who have escaped the bombardment. It provides an excellent weapon for clearing out trenches and for working up communication trenches or over irregular ground. It is the arm par excellence for the execution of a *coup de main.*

10. The grenadier squad may be divided. This will often be necessary, especially when it is united with a fusilier squad to form a "wave."

Range, accuracy, and discipline are the important points in grenade fighting. These qualities result from training, and it is impossible to overestimate their importance.

V. B. GRENADE GUNS (RIFLE GRENADES).

11. They may be employed as articles of trench equipment to harass the enemy, but are primarily for battle use.

12. **On the defensive,** the 16 grenade rifles per company will project 150 grenades per minute and *automatically* set up an impassable barrage at 90 to 170 yards' range. Several grenade guns concentrated on a trench will stop hostile grenade throwing.

13. **On the offensive,** the rifle grenade extends the zone covered by the hand grenade, and will reach an underground enemy at a considerable distance.

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In the numerous local fights where artillery support is unobtainable the grenade gun supplies its place in the accurate bombardment of the enemy's centers of resistance. It cuts off hostile groups which are being attacked by hand grenades and prevents their retreat or reinforcement. Finally, it is most efficacious against hostile counterattack.

In all situations, but more particularly in the offensive, it pays to employ concentration of fire with this weapon.

AUTOMATIC RIFLES.[1]

14. Characteristics:
    (1) Extreme mobility.
    (2) Reliable effect at short distances. The fire is kept low automatically.
    (3) Fairly good effect at medium distances.
    (4) Considerable flexibility of control. Traversing fire can be carried out with facility. A change of objective can be made instantly.
    (5) Fire possible when in movement. Under certain circumstances the enemy may be compelled by this means to keep under cover at the time of the final rush to the assault.

The weapon has neither the rigidity nor rapidity of fire of the machine gun, and can not altogether replace it. It resembles it, however, in moral effect. Moreover, it can accompany a small unit under circumstances where it would be impossible to set up a machine gun.

15. The automatic rifle, therefore, is preeminently the weapon to accompany infantry, for holding ground gained, and for stopping counterattack. A great volume of fire is obtainable the very moment the objective is seized; the fire is flexible, and, furthermore, it gives time to bring up a machine gun deliberately and place it in a favorable position, particularly for flank defense.

In a captured position it can sweep communications along which the approach of the enemy's reserves may be expected. At this juncture it should be used as a preventive weapon to act on the enemy's morale and make his counterattack come to nothing.

The successful working of the automatic rifle depends in large measure upon the instruction of the gun squad and the care with

[1] Doubts have been expressed as to the strength of the mechanism of the automatic rifle to withstand rough usage, but experience has proven that this objection is not well founded if precautions are taken to keep the gun in its case until required for use. Mud is one of the principal enemies of the automatic rifle.

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which the gun is handled. From the very first it has been found necessary to put a noncommissioned officer in charge of each two guns.

37-MM. GUN.

16. Characteristics:

(1) Enough mobility to enable it to accompany the infantry at all stages of the fight.
(2) Extreme accuracy.
(3) Ease of adjustment.
(4) Effective range up to 1,600 yards.
(5) Adapted to fire from a masked position.

The effects of the shell resemble those of a grenade, but it will penetrate two or three rows of sandbags, a timber blindage, or a steel plate before bursting.

This weapon is built to destroy any visible machine guns by direct fire. It will also give good results against troops taken in enfilade.

17. Experience shows that this gun can seldom be used in the infantry "wave," as it is immediately spotted and destroyed.

RESULTS TO BE OBTAINED FROM THE NEW COMPANY ARMAMENT.

18. The best results will only be obtained from the newly constituted companies, provided three primary conditions are fulfilled:

(1) The new weapons must act in combination with one another.
(2) The supply of stores and ammunition must be assured.
(3) The men must be expert in the use of these weapons.

(1) The *combination* of machine guns, automatic rifles, 37-mm. guns, and rifle grenades forces the enemy to lie close in their holes, while the grenadiers and voltigeurs hurl themselves forward and bring them to a hand-to-hand encounter.

The weapons of low trajectory (i. e., machine gun, automatic rifle, 37-mm. gun) engage everything that shows above the ground, and the high trajectory weapons (hand and rifle grenades) engage everything that seeks cover.

The voltigeurs complete the results and follow up the successes obtained by the specialists.

(2) The perfect organization of the *supply of stores and ammunition* is necessary in order to secure a sufficient supply for the various weapons at all times. The heavy and cumbrous material now required to keep the new weapons supplied makes its provision all the more difficult.

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(3) *Training* is even more necessary with the new armament than with the old.

Arms of high efficiency are only effective when in the hands of disciplined and courageous experts, under officers with accurate knowledge of the weapons. All must get the idea out of their heads that specialists are a race apart, whose rôle in daily life and in battle is different from that of their comrades. These all live and fight in the same ranks and in close union with the voltigeurs. Their training only is specialized.

As this war goes on, the method of fighting is being continually modified; it is the duty of everyone to follow this evolution, and to take immediate advantage of every advance. With equal courage on either side, the best trained wins.

19. The present day company, with all its weapons and a proportion of machine guns in support, can produce a far greater volume of fire than could the same unit at the beginning of the war.

The difference is noticeable at medium distances, and is striking at distances under 200 yards. On the defensive the company can now hang on to its ground much more firmly while awaiting the protection of artillery barrage. This is particularly valuable to infantry during the period when, after the capture of an objective, the artillery has not yet obtained sufficiently exact knowledge of the situation to enable it to afford support.

On the offensive, infantry has regained the power and maneuvering ability which was so much reduced by the introduction of trench warfare. Once the artillery has breached the enemy's defenses the infantry can now dash forward into the latter and break up any local resistance of hostile counterattacks with their own weapons.

CONDUCT OF THE FIGHT.

THE SECTION.

20. **The present method of fighting is characterized by a reduced density and increased depth of formation.**—Recent experience shows that an interval of 4 or 5 paces between men extended in line insures the minimum of casualties without loss of cohesion.

This distance may, therefore, be considered as the normal interval; and, to avoid the loss of control resulting from overextension, the section should, from the first, be distributed in depth and not in breadth.

21. The normal fighting front of the section is from 80 to 100 paces. A section may operate in battle as an assaulting unit, or as a reinforcing unit.

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22. **As an assaulting unit.**—(*a*) The first line, generally called a "wave," usually consists of the first half-section (grenadiers and fusiliers).

The grenadiers deal with bodies of the enemy sheltering in trenches and shell holes.

The fusiliers direct their fire on any men who show themselves, whether running back or advancing to counterattack.

(*b*) The second line (or "wave") is formed by the second half-section. The grenade gunners use their plunging fire to form a barrage either in front of the line they hold, or in rear of the line attacked; they may also bring fire to bear on the enemy under cover who are too far off to be dealt with by the hand grenade.

The riflemen follow up the first "wave" and use their rifles and bayonets to settle the fights commenced by their comrades.

The section commander moves with the second line between his voltigeur squads.

The distance between two "waves" varies from 10 to 15 paces.

Under certain circumstances there may be reason to place riflemen in the first "wave," particularly when the front of the section is greater than the normal. It is then advisable to employ them by squads to join up with the automatic-rifle squad.

23. **As a reinforcing unit.**—If its strength permits, the section may adopt a two-line formation like an assaulting section.

The section commander moves in front with his line of specialist squads, in a favorable position to direct his section according to the progress of events in front. He either deploys his squads or moves them in single file to keep them longer in hand.

When the supporting section is minus one of its specialist squads (as discussed later) its commander may dispose it in a single "wave."

THE COMPANY.

24. **Distribution.**—The battle front allotted to the company varies from 220 to 330 yards.

The company is generally able to place two assaulting sections side by side in its battle front. It may also place three, and exceptionally four. Sections not forming part of the assaulting line become reinforcing sections.

The assaulting sections form the first two "waves" of the company ("assaulting waves"), which act as described in section 22 above.

Immediately behind the "assaulting waves" come the parties for "clearing up" the trenches; these form the "*clearing up*" or third

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"wave." The remainder of the company (one or two sections less any detailed as "clearing-up" party) form one or two "waves," according to strength, denominated reinforcing or maneuvering "waves," at the head of which the company commander takes his position. Reinforcing sections follow the "clearing-up wave" at a distance of about 40 to 50 paces.

25. **Plan of operations.**—The success of an attack depends on the accuracy with which it is carried out. A commander should draw up his plans in such a manner as to insure accuracy of execution.

The plan of operations is based on the rôle assigned to the unit, the obstacles to be overcome in order to insure success, and the means at the disposal of the unit.

The rôle of the unit and any supplementary means which may be placed at its disposal are detailed in the battalion commander's operation orders.

The obstacles to be overcome are known nowadays in almost complete detail, thanks to excellent methods of observation and the information placed at the disposal of the troops by the staff (i. e., intelligence reports on the enemy's defenses day by day, photographs, large scale plans, sketches, and information from various sources).

All this information must be classified by the regimental commander, and useful extracts or reproductions freely distributed so as to reach all companies concerned. The company commander issues the necessary copies to his subordinates, noncommissioned officers included, and sees that each sketch shows the route and objective of the unit in colored pencil.

26. The company commander issues the plan of operations for his company in the form of an operation order. This must be submitted for approval to the battalion commander without giving rise to paper work and correspondence.

27. The plan of operations details the following:

(*a*) The rôle of the battalion, of the company concerned, and detached companies.

(*b*) The number of assaulting sections, the starting point of each, and its rôle and objective.

(*c*) The number and composition of "clearing up" parties and their respective rôles in accordance with the orders of the battalion commander.

(*d*) The distribution and respective rôles of reinforcing sections (from which the "clearing up" parties will be taken) and the routes they are to follow.

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(*e*) Lines of attack of different units and their compass bearings.
(*f*) Distance between different echelons.
(*g*) Position of company commander.
(*h*) Time the assault is to start.
(*i*) Method by which the artillery fire is to be timed to conform with progress of the infantry.
(*j*) How the sections and company commander are to keep each other informed of their respective positions, especially the use of signaling devices (rockets, lights, etc.).
(*k*) Methods of communication with neighboring units.
(*l*) The method to be adopted to mark out the front occupied either at some particular time or on some line agreed upon, or as required.
(*m*) The occupation of the conquered positions, and following up the success obtained.
(*n*) Outfit to be taken.
(*o*) Supply of ammunition, including rifle grenades, and ammunition for automatic rifles and machine guns; whether to be supplied under company or battalion arrangements; where these supplies will be drawn or delivered.
(*p*) Situation of store depots for wire, sandbags, tools, etc., required for the organization of the new front.
(*q*) Evacuation of the wounded.

28. **Remarks on subparagraph** (i).—The company commander must explain to the men how the artillery fire will lift as the assault progresses, and how in consequence the infantry must march, as it were, into the shell fire, following up the barrage as closely as it is possible to do so. Officers with the attack carry no swords; they will be dressed and equipped like their men, with insignia of rank as inconspicuous as possible.

THE BATTALION.

29. **Distribution.**—The battalion commander places one, two, or three companies in line according to the front allotted. The companies in the second line take up as thin a march formation as possible, moving generally in line of squads in single file.

30. **Plan of operations.**—The battalion scheme is based on the same rules, and falls under the same heads as that of the company. In addition, the battalion commander issues orders for the following:

(*a*) "Clearing up" the trenches.
(*b*) The employment of the machine-gun company.
(*c*) The employment of the 37-mm. gun.

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(*d*) Occupation of the position won.
(*e*) Reconnaissance of a further objective, and following up the advantage gained.
(*f*) Replenishment of ammunition, etc.
(*g*) Intercommunication services.

31. **"Clearing up" of trenches.**—This is an extremely important operation, and must be carried out methodically and speedily. Courageous men are required and very energetic commanders.

The clearing-up scheme is drawn up by the battalion commander according to instructions issued by the regimental commander. It is founded on aeroplane photographs, which show up the principal dugouts of the enemy. With this assistance the battalion commander fixes the strength necessary to clear up each group of dugouts, details the units to furnish the detachments, and the duties of the latter when the clearing up is completed. As a rule, clearing-up parties are made up of grenadier squads reinforced by riflemen; they are always under the command of noncommissioned officers.

In some cases the strength of a party may be half a section or a section, and sometimes a complete company may be detailed to clear up some point d'appui of particular importance. Clearing up parties are never drawn from assaulting sections, which must be kept intact. They are drawn from reinforcing sections or from companies or battalions in second line.

When the objective of the first line companies consists of two lines of trenches some distance apart, it is indispensable to detail separate clearing parties for each group. But whatever their objective, the *whole* of these clearing detachments march in rear of the assaulting "waves."

Once their particular task is completed, the clearing-up parties may be employed on the perparation and occupation of the conquered trenches. In this case machine guns or automatic rifles are detailed to assist them. Clearing-up parties move in line or in small columns, according to circumstances. There must be frequent drills in "clearing up" trenches.

32. **The machine gun company** [1] is a powerful means at the battalion commander's disposal for completing by its fire effect the operations of his other units. He regulates its work—

(*a*) At the beginning of the attack.
(*b*) During the progress of the attack.
(*c*) In the occupation of the objective assigned.

[1] See instructions of Nov. 24, 1915, on the Tactical Employment of Machine

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(*a*) *At the beginning of the attack* the machine guns of battalions in the first line follow their battalions. They will be distributed at the discretion of the battalion commander, chiefly with a view to their installation on the captured front. The machine guns of the battalions in second line are placed, to begin with, on the front from which the attack starts. Placed at selected points affording good fields of fire, they may be employed to advantage in covering the flanks of the first line battalions by directing a stream of fire on any intervals which may occur between them, or more particularly on the outer flanks of the battalions on the wings of the whole force. When the nature of the ground permits it is also desirable to bring these machine guns into action against the enemy's second or third lines, his communication trenches, or any machine guns which show themselves. But all necessary precautions must be taken to avoid hitting or obstructing our own troops.

(*b*) *During the progress of the attack* the battalion commander sends all or part of his machine guns to positions which have been pointed out beforehand, and which offer the best facilities for securing the ground won either by his own battalion or those on either side.

(*c*) In the occupation of the conquered ground the fullest possible use should be made of the various weapons, viz, machine guns, automatic rifles, and rifle grenades. Distribution on these lines will result in bringing the fusilier squads and grenade gunners (rifle bombers) into the first line occupied, and bring the grenadiers and riflemen into the reserve to provide against counter attacks. Furthermore, the battalion commander must distribute his machine-gun company, and the fusiliers and grenade gun squads (rifle bombers) of the company or companies in reserve, in such a manner as to increase the volume of fire available in the front line.

33. **The 37-mm. gun.**—This is, as a rule, a battalion weapon. In certain cases, however, the regimental commander may keep it in his own hands.

It is employed—

(*a*) To prepare and accompany the ttack.

(*b*) To break the resistance of enemy groups during the progress of assault.

(*c*) To cooperate in the occupation of the position when conquered.

(*a*) *To prepare and accompany the attack.*—Before the attack starts the gun is mounted in an emplacement so as to act efficaciously either by destroying any machine-gun emplacements disclosed at the last moment or by battering the second or third lines of the

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enemy. To avoid the destruction of the gun, it should only be brought into action at the last moment.

(*b*) *During the course of the attack* the 37-mm. gun goes forward when it can be of no further use in its initial position or when it is required by the infantry to destroy some center of resistance.

Its move must be provided for in the operation order.

On account of its vulnerability, it is never placed in the first "waves," but may accompany the battalion commander.

Its use is to destroy machine-gun emplacements, or clear out fire or communication trenches when opportunities occur to enfilade them. Its employment too close to its target is to be avoided. Masked fire should be used as much as possible.

(*c*) *Occupation of the conquered position.*—The 37-mm. gun helps to secure a firm hold of a position won, in the same manner as a machine gun.

It is placed so as to bring fire (oblique for preference) to bear on the probable lines of approach of enemy counter attacks. It is always advantageous to arrange to have more than one masked emplacement, so as to prevent the gun being easily spotted by the enemy's artillery.

34. *The plan of occupation of the conquered ground* is based on the instructions of the regimental commander drawn up in accordance with the scheme laid down by higher authority.

It will provide for the following:

(*a*) Number of troops to be detailed to occupy the position.

(*b*) Their distribution in breadth and more particularly in depth.

(*c*) The distribution of machine and 37 mm. guns.

(*d*) Works to be constructed, including fire and communication trenches; distribution of work to units.

(*e*) Information regarding sites of depots of all sorts of stores, tools, wire, pickets, stakes, sandbags, etc.

(*f*) Approximate positions of different headquarters.

35. **Reconnaissance of further objectives and following up a success.**—The capture of the assigned objective is not the end of the battalion offensive.

It is, above all, necessary—

(*a*) To regain contact with the enemy.

(*b*) To reconnoitre the enemy's new position.

(*c*) To prepare and then carry out a forward movement with the idea of either securing a base of departure for a fresh advance, or of getting the fullest possible value out of the success already obtained.

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Contact is regained and the fresh position reconnoitered by patrols detached from the first-line troops as soon as they reach the conquered position.

Their objectives are indicated in the orders for the attack.

These patrols are composed of grenadiers and fusiliers, strengthened by voltigeurs, who make their way rapidly toward their objectives. They occupy these objectives and form the skeleton of a fresh line to be occupied and organized as quickly as possible.

Full advantage should immediately be taken of any gaps in the enemy's defenses.

Enterprising infantry will always find opportunities of completing an initial success by the seizure of points d'appui whose reduction would cost them dear the following day. It is particularly important to seize immediately any point which the enemy has abandoned.

The limiting of objectives does not imply the suppression of initiative.

The battalion commander must not lose sight of the fact that successes are not attained by the infantry alone, but by *combination with the artillery*. Subsequent progress, therefore, must be studied beforehand in communication with the artillery and worked out in fullest detail.

The necessity of sending back quick and frequent reports must be strongly impressed on all officers and noncommissioned officers.

36. **Replenishment of supplies, ammunition, and stores.**—The regimental and battalion commanders are responsible for the arrangements for these services.

Whatever may be the refilling arrangements, horse transport will invariably be brought as far forward as possible to avoid unnecessary fatigue to the troops. Donkeys and mules will be found most useful for the purpose.

(*a*) *Supplies.*—At starting, men will take all the food they can carry and 3 or 4 pints of water. Cooking and water carts, under charge of a very energetic officer or noncommissioned officer, will be brought as close up to the troops as possible. Food of too liquid a nature for easy carriage is to be avoided. It is sometimes useful to employ a sort of squad ration basket containing the food for the whole of the following day. Preserved provision depots may also be established at company headquarters. Solidified spirits of wine will be issued to the men for heating food.

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(*b*) *Ammunition and signal lights.*—These are drawn from advanced depots, each containing all descriptions of ammunition that can be asked for.

The development of the specialist services, leading as it does to a great consumption of weighty and bulky stores, makes the careful organization of the refilling system of vital necessity.

A convenient arrangement is to make up ammunition into lots, each containing a proportion of—

Rifle ammunition.
Machine-gun and automatic-rifle ammunition, hand grenades.
Gun grenades (rifle grenades).
Rounds for 37-mm. gun.
Rockets and signal lights.
Illuminating rockets.
Sandbags (for carrying stores).

When ammunition is demanded one complete lot is sent up in the absence of notification to the contrary.

(*c*) *Stores.*—As in the case of supplies and ammunition, depots should be placed close to the trenches from which the attack is to start, in the neighborhood of company and battalion headquarters.

37. **Intercommunication, or liaison.**—See instructions of December 4, 1915, and provisional regulations for the infantry liaison by means of aeroplanes and captive balloons of April 17, 1916.

Approved.

J. JOFFRE

SKETCH PLANS.

The dispositions shown are merely explanatory. In practice they are to be modified according to circumstances.

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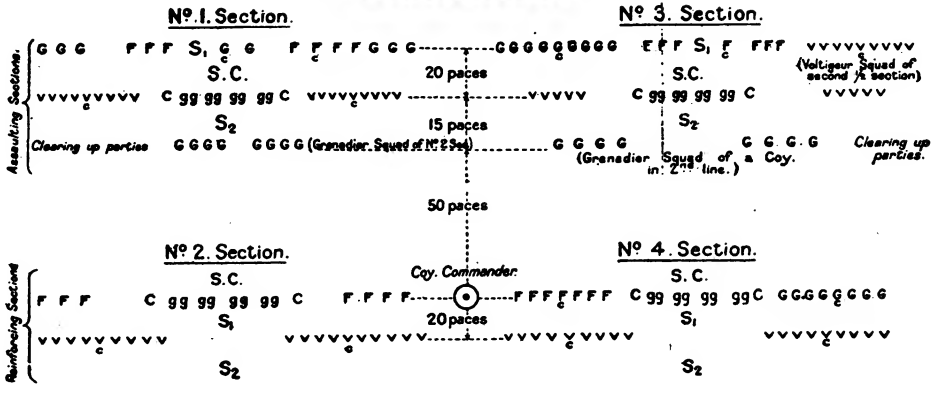
Sketch N°I.

1st. LINE Coy IN ATTACK FORMATION WITH 3 ASSAULTING SECTIONS.

FRONTAGE 220 YARDS.



EXPLANATIONS.

G Grenadier. — G_c - Corpl. — F Fusilier. — F_c Fusilier Corpl. — V Voltigeur. — V_c - Corpl. — gg. Rifle Grenade men. — C. Carrier. — S.C. Section Commander. — S_1, Sergt. of 1st ½ section. — S_2 - - 2nd ½ section. — ⊙ Company Commander.

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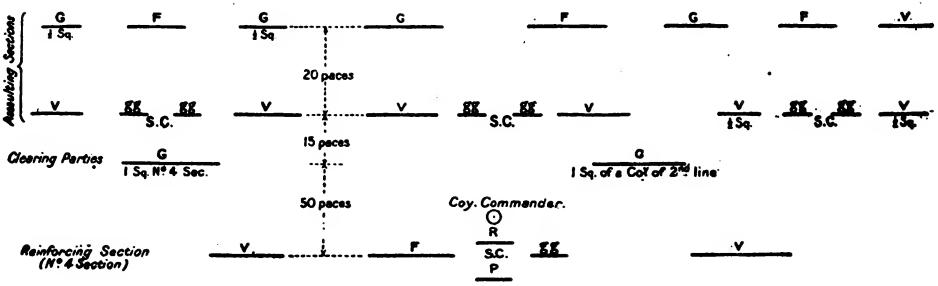
Sketch N° 2.

1ST LINE COY IN ATTACK FORMATION WITH 3 ASSAULTING SECTIONS.

(FRONTAGE 280 TO 330 YARDS)



EXPLANATIONS.

G. *Grenadiers.*
F. *Fusiliers.*
V. *Voltigeurs.*
P. *Pioneers.*
gg. *Rifle Grenade men.*
S.C. *Section Commander.*
R. *Runners.*

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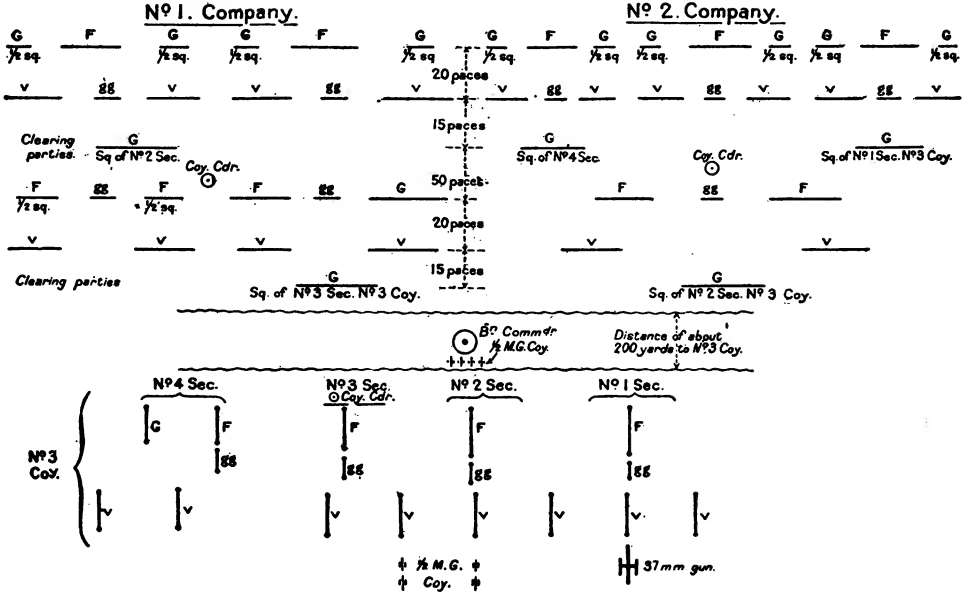
Sketch No 8.

BATTALION IN ATTACK FORMATION. (FRONTAGE 440 TO 550 YARDS.)



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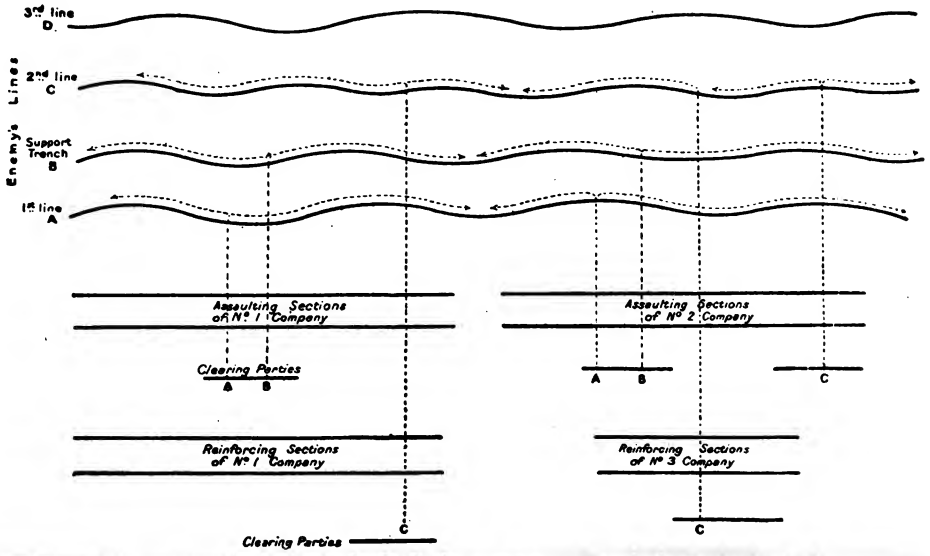
Nº 4 Sketch.

PLAN SHOWING ACTION OF CLEARING UP PARTIES OF TEN BATTALION IN ATTACK FORMATION SHEWN IN SKETCH Nº 3.



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